

September 28, 2020

Chairman Lyle Larson  
House Natural Resources Committee  
Via email: Shannon.Houston\_HC@house.texas.gov



Re: House Natural Resources Committee Interim Charge -- ***Emerging Issues in Groundwater and Surface Water Interaction, in Particular in Areas of Increasing Competition for Scarce Resources.***

Dear Chairman Larson, Committee Members, and Ms. Houston,

The Hays Trinity Groundwater Conservation District (GCD) was created in 2001 by SB2(77R) to manage the aquifers that supply water to Hays County, one of the fastest growing counties in the United States and one increasingly affected by a rural-urban interface.

The Hays Trinity GCD is charged with balancing water conservation and development, protecting property rights, and using best available science to avoid waste and support beneficial use. It is a District of rapid population growth where traditional rural use meets rising residential, industrial, and commercial use, with increasing demand for water from a geologic area marked by regular interaction of surface and groundwater flow.

The Hays Trinity GCD exists to manage -- ***Emerging Issues in Groundwater and Surface Water Interaction, in Areas of Increasing Competition for Scarce Resources.***

### **Where Science Meets Policy**

The Hays Trinity GCD is located in highly porous karst terrain that makes up most of the Hill Country. In addition to its beauty, karst terrain poses a variety of water management challenges.

The Hill Country is filled with springs and disappearing streams that are active aquifer discharge and recharge features. During drought conditions, the Blanco River's main flow will percolate through the riverbed into the aquifer or as underflow and return as spring-flow many times on its way downstream (Fig. 1). From its headwaters in Gillespie County to its confluence with the San Marcos River, the waters of the Blanco River may shift from above to below ground at least four times and pass through two major aquifers. A visit to [Natural Bridge Caverns](#) or [Cave Without a Name](#) is a quick study on how our local rivers can flow underground.

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We often describe Texas' waters as stored in two banks - surface water or groundwater. In the Hill Country, water managers know that these two banks are connected, and over-drafting one will likely have an immediate negative effect on the other. Ask any rancher or municipal utility manager if these negative effects are important to their economic bottom line. They will have plenty to say.

To protect both surface and groundwater, the Texas Legislature provides groundwater conservation districts with several important management tools in Chapter 36 of the Water Code. The first is the ability to set specific spring-flow rates to measure an aquifer's Desired Future Condition (DFC). The second is the authority to adopt rules creating Special Groundwater Management Zones (GMZ). Both tools have been successfully utilized in maintaining aquifer pressure and protecting water wells.

### **In Action -- Jacob's Well Groundwater Management Zone**

Increasing reports of dry wells and periodic cessation of flow from Jacob's Well spring caused alarm in the surrounding area. The Wimberley community recognized the economic impact of reliable water wells and flowing waters from Jacob's Well through Cypress Creek and into the Blanco River. Local stakeholders approached the Hays Trinity GCD to determine which of these management tools would best protect water resources around Wimberley's Jacob's Well spring. Recognizing the correlative health of reliable wells and spring-flow, the District was able to recommend improved management policy that helps protect water wells based on spring-flow volume.

A highly diverse task force including landowners, business leaders, developers, investor-owned and community-owned water utility executives, neighborhood and community leaders, government officials, environment advocates, academic groundwater experts, River Authority & GCD representatives, and other advisors with science and policy expertise convened and commissioned the development of a technical report in order to give a solid scientific basis to any resulting policy. The Jacob's Well Groundwater Management Zone in Hays County, Texas -- Report: 2019-05 documents the hydrologic properties and defining boundaries of the Jacob's Well spring-shed.

Over an 8-month period, the volunteer 35-member stakeholder task force fought and negotiated a compromise on a set of policy recommendations that were delivered to the Hays Trinity GCD for consideration. The resulting Jacob's Well Groundwater Management Zone, approved in March 2020, serves to protect the community's economic driver - its groundwater - through enhanced management.

The Jacob's Well stakeholders recognize that no policy, rule, or law can ensure perennial spring-flow everywhere for everyone. The community's goal was to apply sound science and advanced management tools to conserve water during drought, thereby protecting their economy. Increasing competition for scarce resources and the interaction of ground and surface water are the reality.

### **Policy Recommendations**

- Economic health and sustainability are critical to our communities. ***The Committee should commission economic studies measuring surface and groundwater interaction (spring-flow) value to local economies and property values.***
- Property Rights (existing water rights) can be negatively affected by overdraft from both surface and groundwater. ***The Committee should commission a study to discover the economic impact on existing property rights by upstream overdraft.***

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- The Bandera County River Authority and Groundwater District is a highly functional (and rare) Hybrid agency able to manage surface and groundwater interaction with efficiency. ***The Committee should consider commissioning a study on expanding the management roles of GCDs located in counties not served by a River Authority.***
- GCDs have no authority to manage river underflow, because it is legally considered surface water and subject only to Texas Commission on Environmental Quality regulation. ***The Committee should commission a study to determine when and where surface and groundwater interaction and water rights are negatively affected by unmanaged alluvial underflow wells.***

## Funding Recommendations

- Surface water availability models (WAMs) and groundwater availability models (GAMSS) are out of date and do not represent new population realities across the state. ***The Committee should continue to support legislative funding to keep these critical planning tools up to date.***
- WAMs and GAMS are useful planning tools, but they are too course to effectively assess local surface and groundwater interaction realities. ***The Committee should continue to support funding for local field studies and granular modeling in areas with high levels of surface and groundwater interaction.***
- Much of the Jacob's Well Groundwater Management Zone technical report was drawn from research funded by the Texas Water Development Board, Local Groundwater Conservation Districts, and Universities. ***Funding for hydrologic research is not possible without continued support from this Committee.***

Thank you for your Service to the State and your dedication to its water resources. Please reach out if you have questions and thank you for the opportunity to comment on this critical topic.

Sincerely,



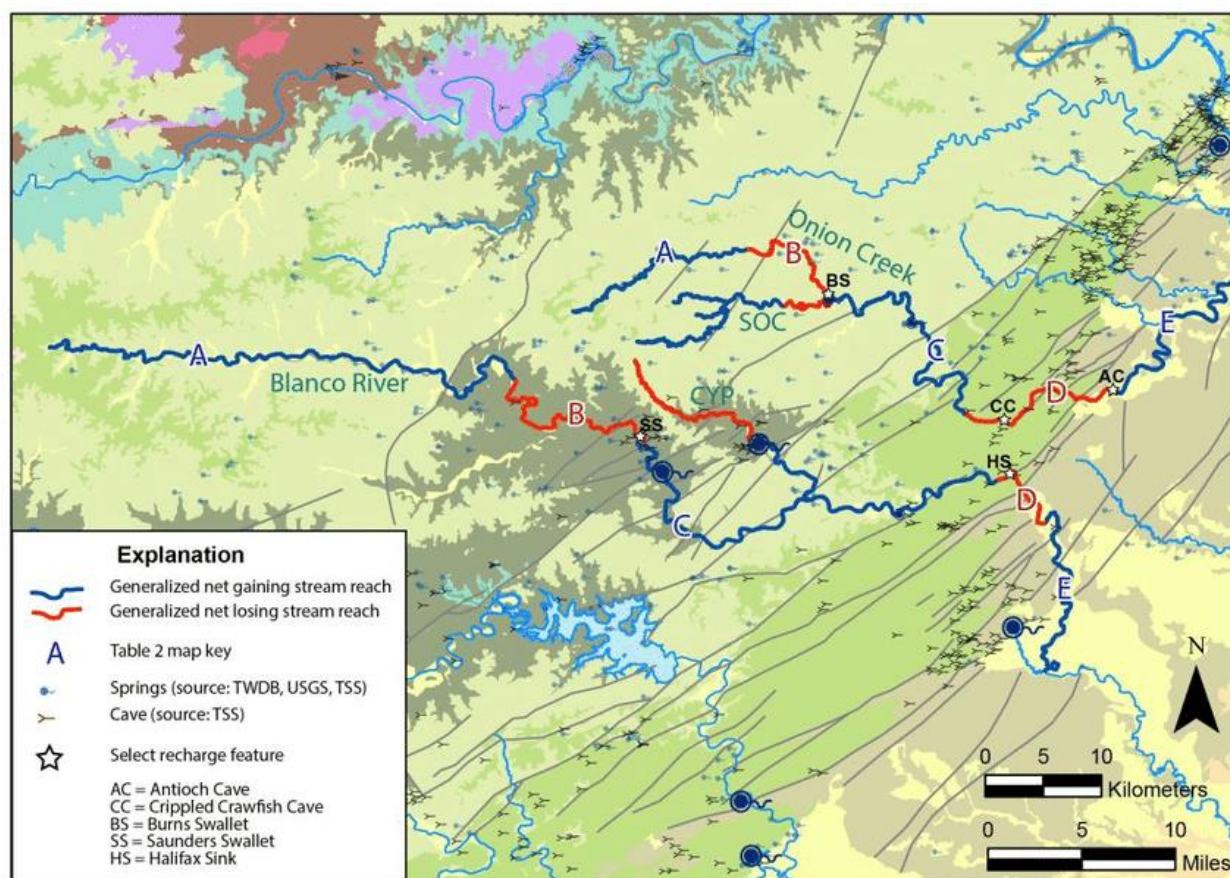
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CC:  
 HTGCD Board of Directors  
 Hays County Commissioner Walt Smith  
 Hays County Commissioner Lon Shell  
 Representative Erin Zwiener  
 Senator Donna Campbell  
 Representative Kyle Biederman  
 Representative Andy Murr  
 Representative Tracy O. King  
 Senator Dawn Buckingham

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**Figure 1: Rivers Gain and Lose Water as they Flow Downstream. (Hunt, 2017)**



## References

Texas Water Code, Chapter 36

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